

AMENDMENTS TO THE CLAIMS

1. **(Currently amended)** A method for detecting the presence of an antibody in a mammal, comprising:

immobilizing an antigen on a substrate to form a spot or streak;

contacting said immobilized antigen with a sample from said mammal under conditions such that any antibodies from said mammal specific for said antigen bind thereto;

washing the substrate to remove unbound antibodies;

contacting said antibodies from said mammal bound to said antigen with a nickel~~metal~~-antibody conjugate, wherein the antibody of the nickel~~metal~~-antibody conjugate is specific for IgG of the species of mammal being tested;

washing the substrate to remove unbound nickel~~metal~~-antibody conjugate;

applying a voltage between electrodes which are separated by said spot or streak;

and

measuring a current across said spot or streak, wherein conduction of a current is indicative of the binding of the nickel~~metal~~-antibody conjugate to the antibody bound to the immobilized antigen.

2. **(Currently amended)** A method for detecting the presence of an antigen, comprising:

immobilizing an antibody specific for said antigen on a substrate to form a spot or streak;

contacting said immobilized antibody with a sample under conditions such that any antigen present in the sample binds to said immobilized antibody to form an immobilized antibody-bound antigen complex;

washing the substrate to remove unbound antigen;

contacting said immobilized antibody-bound antigen complex with a nickel~~metal~~-antibody conjugate, wherein the antibody of the nickel~~metal~~-antibody conjugate is specific for said antigen;

washing the substrate to remove unbound nickel~~metal~~-antibody conjugate;

applying a voltage between electrodes which are separated by said spot or streak;
and

measuring a current across said spot or streak, wherein conduction of a current is indicative of the binding of the metal-antibody conjugate to the immobilized antibody-bound antigen complex.

3. **(Cancelled)**

4. **(Previously Presented)** The method of claim 1, wherein the presence of the antibody is indicative of a disease or autoimmune state.

5. **(Currently Amended)** The method of claim 4, wherein the disease or autoimmune state is systemic lupus erythematosus (SLE).

6. **(New)** A method for detecting the presence of an antibody in a mammal, comprising:

immobilizing an antigen on a hydrophobic substrate to form a spot or streak;

contacting said immobilized antigen with a sample from said mammal under conditions such that any antibodies from said mammal specific for said antigen bind thereto;

washing the substrate to remove unbound antibodies;

contacting said antibodies from said mammal bound to said antigen with a metal-antibody conjugate, wherein the antibody of the metal-antibody conjugate is specific for IgG of the species of mammal being tested;

washing the substrate to remove unbound metal-antibody conjugate;

applying a voltage between electrodes which are separated by said spot or streak;

and

measuring a current across said spot or streak, wherein conduction of a current is indicative of the binding of the metal-antibody conjugate to the antibody bound to the immobilized antigen.

7. **(New)** A method for detecting the presence of an antigen, comprising:

immobilizing an antibody specific for said antigen on a hydrophobic substrate to form a spot or streak;

contacting said immobilized antibody with a sample under conditions such that any antigen present in the sample binds to said immobilized antibody to form an immobilized antibody-bound antigen complex;

washing the substrate to remove unbound antigen;

contacting said immobilized antibody-bound antigen complex with a metal-antibody conjugate, wherein the antibody of the metal-antibody conjugate is specific for said antigen;

washing the substrate to remove unbound metal-antibody conjugate;

applying a voltage between electrodes which are separated by said spot or streak;

and

measuring a current across said spot or streak, wherein conduction of a current is indicative of the binding of the metal-antibody conjugate to the immobilized antibody-bound antigen complex.

8. **(New)** The method for detecting the presence of an antibody in a mammal of Claim 6, further comprising performing a parallel colorimetric assay on the substrate.

9. **(New)** The method for detecting the presence of an antigen of Claim 7, further comprising performing a parallel colorimetric assay on the substrate.

10. **(New)** The method of any of Claims 1-9, wherein said step of immobilizing further comprises immobilizing a plurality of spots in an microarray format.